

Aerolysin Nanopore for Single Oligonucleotide Analysis

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Nanopore sensing technique is an emerging platform for single molecule analysis in a fast, low-cost, and label-free way without the need of amplification¹. Biological nanopores, α -hemolysin, MspA, phi29 DNA-packing nanomotor, ClyA, FhuA, and SP1 have been used in a wide ranges of single molecule sensing such as DNA sequencing, DNA damages analysis, disease-associate targets identification, metal ions discrimination, and probing the structure of proteins². Here, we reported that aerolysin nanopore exhibits a high current and temporary resolution for single oligonucleotide discrimination³. Further applications of aerolysin nanopore were achieved to distinguish individual oligonucleotides from mixtures and to monitor the stepwise cleavage of oligonucleotides by exonuclease I. Our findings reveal that aerolysin is a very promising candidate for the application of nucleic acid analysis at single-molecule level⁴.

Reference:

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